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10/734,181

12/15/2003

Nathalie Mougin

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12/12/2007

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EXAMINER

VENKAT, JYOTHSNA A

ART UNIT

PAPER NUMBER

1615

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DELIVERY MODE

12/12/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/734,181

Applicant(s)

MOUGIN, NATHALIE

Examiner

JYOTHSNA A. VENKAT Ph. D

Art Unit

1615

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 September 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-93 is/are pending in the application.
- 4a) Of the above claim(s) 41-62, 66-78, 87-89, 92 and 93 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-40, 63-65, 90 and 91 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 12/15/03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

Receipt is acknowledged of election filed on 5/23/07 and 9/10/07. Receipt is also acknowledged of IDS filed on 12/15/03. Claims 1-93 are pending in the application and the status of the application is as follows:

#### ***Election/Restrictions***

Applicant's election with traverse of group I in the reply filed on 5/2/07 is acknowledged. The traversal is on the ground(s) that the examiner has not shown that examining at least Groups I and II together would constitute a serious burden and examining claims of group I and III would not impose serious search burden since both the groups are in same class and subclass. This is not found persuasive because it is a search burden to examine groups I and II since both the groups are in different subclasses. Restriction between groups I and II is in compliance with MPEP § 806.05(g). It is a search burden to examine groups I and III since art anticipating or rendering composition claim would not anticipate or render obvious method of use claims. Restriction between groups I and III is in compliance with MPEP § 806.05(h).

The requirement is still deemed proper and is therefore made FINAL.

Claims 87-89 and 92-93 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 5/23/07.

Applicant traverse the election of species requirement and argue that the examiner has not provided any reasons or evidence on the record to show that examination of all the species would impose a serious burden. In response, it is a search burden to examine all the specie

belonging to "film forming gradient polymer". Film forming gradient copolymer is formed from two monomeric residues. See below for claims drawn to monomers that form the gradient copolymer.

40. The composition according to Claim 27, wherein the at least one film-forming gradient copolymer comprises at least one hydrophilic monomeric residue chosen from residues of :

- derivatives of C<sub>1</sub>-C<sub>6</sub> aminoalkyl (meth)acrylates;
- C<sub>1</sub>-C<sub>4</sub> N,N-dialkyl(meth)acrylamides;
- C<sub>1</sub>-C<sub>4</sub>N,N-dialkylC<sub>1</sub>-C<sub>6</sub>aminoalkyl(meth)acrylamides;
- C<sub>1</sub>-C<sub>8</sub> dialkyldiallylamines;

- vinylamines;
- vinylpyridines, ;
- acid salts thereof and quaternized forms thereof;
- carboxylic acids;
- carboxylic anhydrides comprising at least one vinyl bond;
- ethylenic sulphonic acids and their salts,
- vinylbenzoic acids, vinylphosphonic acids, and their salts;
- potassium salts of acryloyloxy-3-sulphopropyl, compounds of formula  
 $\text{CH}_2=\text{CHCOOCH}_2\text{OCH}_2(\text{OH})\text{CH}_2\text{SO}_3^-\text{Na}^+$ ;
- amides of unsaturated carboxylic acids;
- hydroxyalkyl (meth)acrylates;
- (meth)acrylates of polyethylene glycol (5 to 100 EO) and of glycol, optionally substituted on their terminal function by a group chosen from alkyls, phosphates, phosphonates and sulphonate groups;
- alkoxyalkyl (meth)acrylates;
- (meth)acrylates of polysaccharides;
- vinylamides;
- vinyl ethers;
- methacrylamidopropoxytrimethylammoniumbetaine;
- N,N-dimethyl-N-methacryloxyethyl-N-(3-sulphopropyl)ammoniumbetaine,
- 3-methacryloylethoxycarbonylpyridinium;
- a compound of formula:

The copolymer can also be formed from the monomers claimed below.

66. The composition according to Claim 1, wherein the at least one film-forming gradient copolymer comprises at least one monomeric residue, said at least one monomeric residue resulting from at least one monomer which is capable of forming a homopolymer with a  $T_g$  less than or equal to  $20^{\circ}\text{C}$ , wherein the at least one monomer is chosen from:

- ethylenic hydrocarbons comprising from 2 to 10 carbons;
- acrylates with the formula  $\text{CH}_2=\text{CHCOOR}_1$ , wherein  $\text{R}_1$  can be chosen from saturated and unsaturated hydrocarbon groups, comprising from 1 to 12 carbons, which may be linear and branched with the exception of the *tert*-butyl group, and optionally comprising at least one heteroatom chosen from O, N, S, and Si, wherein the alkyl groups are optionally substituted by at least one substituent chosen from hydroxyl groups and the halogen atoms chosen from Cl, Br, I, and F;

$\text{R}_1$  can also be chosen from groups of the formula:  $-(\text{R}'')_x-(\text{OC}_2\text{H}_4)_n-\text{OR}'$ , wherein  $x$  is an integer chosen from 0 and 1,  $\text{R}''$  is chosen from saturated and unsaturated, linear and branched, hydrocarbon groups, comprising from 1 to 12 carbon atoms,  $n$  is an integer

chosen from 5 to 100 and R' is chosen from H and CH<sub>3</sub>;

- methacrylates of formula: CH<sub>2</sub>=C(CH<sub>3</sub>)-COOR<sub>2</sub>, wherein R<sub>2</sub> is chosen from saturated and unsaturated hydrocarbon groups, comprising from 3 to 12 carbon atoms, linear and branched, optionally comprising at least one heteroatom chosen from O, N, S and Si, wherein R<sub>2</sub> is optionally substituted with at least one substituent chosen from hydroxyl groups and halogen atoms chosen from Cl, Br, I, and F; R<sub>2</sub> can also be chosen from groups of the formula: -(R'')<sub>x</sub>-(OC<sub>2</sub>H<sub>5</sub>)<sub>n</sub>-OR', wherein x is an integer chosen from 0 and 1, R'' is chosen from saturated and unsaturated, linear and branched, hydrocarbon groups, comprising from 1 to 12 carbon atoms, n is an integer chosen from 5 to 100 and R' is chosen from H and CH<sub>3</sub>;
- N- and N,N-substituted derivatives of amides of C<sub>1-12</sub> unsaturated carboxylic acids;
- vinyl esters of formula: R<sub>3</sub>-CO-O-CH=CH<sub>2</sub> wherein R<sub>3</sub> is chosen from linear and branched alkyl groups comprising from 2 to 12 carbon atoms; and
- vinyl alkyl ethers comprising from 1 to 12 carbon atoms.

The copolymer can be formed from monomers claimed below.

72. The composition according to Claim 1, wherein the at least one film-forming gradient copolymer comprises at least one monomeric residue resulting from at least one monomer which is capable of forming a homopolymer with a  $T_g$  less than or equal to  $20^\circ\text{C}$ , wherein the at least one monomer is chosen from:

- isoprenes and butadienes;
- methyl, ethyl, isobutyl, n-butyl, ethylhexyl, methoxyethyl, ethoxyethyl and hydroxypolyethylene glycol acrylates;
- ethoxyethyls, hexyls, ethylhexyls and hydroxypolyethylene glycol methacrylates;
- $\text{C}_6\text{-}12$  N-alkyl(meth)acrylamides;
- vinyl esters with the formula:  $\text{R}_3\text{-CO-O-CH=CH}_2$  wherein  $\text{R}_3$  is chosen from linear and branched, alkyl groups comprising from 6 to 12 carbon atoms.

The copolymer can be formed from monomers claimed below.

75. The composition according to Claim 1, wherein the at least one film-forming gradient copolymer comprises at least one monomeric residue resulting from at least one monomer which is capable of forming a homopolymer with a  $T_g$  less than or equal to  $20^\circ\text{C}$ , wherein the at least one monomer is chosen from:

- vinyl compounds with the formula:  $\text{CH}_2=\text{CH-R}_4$ , wherein  $\text{R}_4$  is chosen from hydroxyl group;  $-\text{NH-C(O)-CH}_3$  group;  $-\text{OC(O)-CH}_3$  group;  $\text{C}_3\text{-C}_8$  cycloalkyl groups;  $\text{C}_6\text{-C}_{20}$  aryl



groups; C<sub>7</sub> to C<sub>30</sub> aralkyl groups (C<sub>1</sub>-C<sub>4</sub> alkyl group); heterocyclic groups comprising from 4 to 12 chain members comprising at least one heteroatom chosen from O, N and S; heterocyclalkyl groups (C<sub>1</sub>-C<sub>4</sub> alkyl); wherein the cycloalkyls, aryls, aralkyls, heterocyclic, and heterocyclalkyl groups are optionally substituted by at least one substituent chosen from hydroxyl groups, halogen atoms, and alkyl groups comprising from 1 to 4 carbon atoms, linear and branched, and optionally comprising at least one heteroatom chosen from O, N, S and P, and wherein the alkyl groups are optionally substituted by at least one substituent chosen from hydroxyl group, halogen atoms chosen from Cl, Br, I and F, and Si;

- acrylates of formula CH<sub>2</sub>=CH-COOR<sub>5</sub>, wherein R<sub>5</sub> is chosen from *tert*-butyl groups, C<sub>3</sub>-C<sub>8</sub> cycloalkyl groups; C<sub>6</sub>-C<sub>20</sub> aryl groups; C<sub>7</sub>-C<sub>30</sub> aralkyl groups (C<sub>1</sub>-C<sub>4</sub> alkyl groups); heterocyclic groups comprising from 4 to 12 chain members comprising at least one heteroatom chosen from O, N, and S; heterocyclalkyl groups (C<sub>1</sub>-C<sub>4</sub> alkyl); wherein the cycloalkyls, aryls, aralkyls, heterocyclic and heterocyclalkyl groups are optionally substituted by at least one substituent chosen from hydroxyl groups, halogen atoms, and linear and branched C<sub>1</sub>-C<sub>4</sub> alkyl groups and optionally comprising at least one heteroatom chosen from O, N, S and P, wherein the alkyl groups are optionally substituted by at least one substituent chosen from hydroxyl groups, halogen atoms chosen from Cl, Br, I and F), and Si;

- methacrylates of the formula CH<sub>2</sub>=C(CH<sub>3</sub>)-COOR<sub>6</sub>, wherein R<sub>6</sub> is chosen from linear and branched alkyl groups comprising from 1 to 4 carbon atoms, wherein the alkyl groups are optionally substituted by at least one substituent chosen from hydroxyl group, halogen atoms chosen from Cl, Br, I and F, and Si; C<sub>3</sub>-C<sub>8</sub> cycloalkyl groups; C<sub>6</sub>-C<sub>20</sub> aryl groups; C<sub>7</sub>-C<sub>30</sub> aralkyl groups (C<sub>1</sub>-C<sub>4</sub> alkyl groups); heterocyclic groups comprising from 4 to 12 chain

members comprising at least one heteroatom chosen from O, N, and S; heterocyclalkyl groups ( $C_1$ - $C_4$  alkyl); wherein the cycloalkyls, aryls, aralkyls, heterocyclic, and heterocyclalkyl groups are optionally substituted by at least one substituent chosen from hydroxyl groups, halogen atoms, and linear and branched alkyl groups comprising from 1 to 4 carbon atoms, and optionally comprising at least one heteroatom chosen from O, N, S and P, wherein the alkyl groups are optionally substituted by at least one substituent chosen from hydroxyl groups and halogen atoms chosen from Cl, Br, I and F;

- (meth)acrylamides with the formula:  $CH_2=C(R')-CO-NR_7R_8$ ,

wherein  $R_7$  and  $R_8$ , which may be identical or different, are chosen from a hydrogen atom and linear and branched alkyl groups comprising from 1 to 12 carbon atoms and  $R'$  is chosen from a hydrogen atom and methyl.

Thus from the claims above the copolymer can be formed from two monomers or it can be terpolymer. Terpolymer can be formed from three monomers or 4 monomers. Art anticipating or rendering obvious one species would not anticipate or render obvious another species. Thus it is search burden to examine all the species in patent and non-patent literature.

Claims 41-62, 66-78 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 5/23/07.

Generic claims and sub generic claims would be examined to the extent that it reads on the elected species, wherein the gradient copolymer is "ethyl acrylate /styrene/methacrylic acid".

Claims 1-40, 63-65, 80-86 and 90-91 are pending in the application and the status of the application is as follows:

***Priority***

If applicant desires to claim the benefit of a prior-filed application under 35 U.S.C. 119(e), Applicant must provide a certified English translation of the provisional applications **60/459,259**. Further, a specific reference to the prior-filed application in compliance with 37 CFR 1.78(a) must be included in the first sentence(s) of the specification following the title or in an application data sheet. For benefit claims under 35 U.S.C. 120, 121 or 365(c), the reference must include the relationship (i.e., continuation, divisional, or continuation-in-part) of the applications.

If the instant application is a utility or plant application filed under 35 U.S.C. 111(a) on or after November 29, 2000, the specific reference must be submitted during the pendency of the application and within the later of four months from the actual filing date of the application or sixteen months from the filing date of the prior application. If the application is a utility or plant application which entered the national stage from an international application filed on or after November 29, 2000, after compliance with 35 U.S.C. 371, the specific reference must be submitted during the pendency of the application and within the later of four months from the date on which the national stage commenced under 35 U.S.C. 371(b) or (f) or sixteen months from the filing date of the prior application. See 37 CFR 1.78(a)(2)(ii) and (a)(5)(ii). This time period is not extendable and a failure to submit the reference required by 35 U.S.C. 119(e) and/or 120, where applicable, within this time period is considered a waiver of any benefit of such prior application(s) under 35 U.S.C. 119(e), 120, 121 and 365(c). A benefit claim filed after the required time period may be accepted if it is accompanied by a grantable petition to accept an unintentionally delayed benefit claim under 35 U.S.C. 119(e), 120, 121 and 365(c). The petition must be accompanied by (1) the reference required by 35 U.S.C. 120 or 119(e) and 37 CFR 1.78(a)(2) or (a)(5) to the prior application (unless previously submitted), (2) a surcharge under 37 CFR 1.17(t), and (3) a statement that the entire delay between the date the claim was due under 37 CFR 1.78(a)(2) or (a)(5) and the date the claim was filed was unintentional. The Director may require additional information where there is a question whether the delay was unintentional. The petition should be addressed to: Mail Stop Petition, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

If the reference to the prior application was previously submitted within the time period set forth in 37 CFR 1.78(a), but not in the first sentence(s) of the specification or an application data sheet (ADS) as required by 37 CFR 1.78(a) (e.g., if the reference was submitted in an oath or declaration or the application transmittal letter), and the information concerning the benefit claim was recognized by the Office as shown by its inclusion on the first filing receipt, the petition under 37 CFR 1.78(a) and the surcharge under 37 CFR 1.17(0 are not required. Applicant is still required to submit the reference in compliance with 37 CFR 1.78(a) by filing an amendment to the first sentence(s) of the specification or an ADS. See MPEP § 201.11.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 32-39 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Detailed explanation is requested with respect to "monomeric residue resulting from monomer, which is capable of forming a homopolymer... 20 degrees Celsius". Claim is ambiguous. Are all the monomers claimed and disclosed in the specification have the claimed glass transition temperature. Does polyvinyl amide or polyvinyl ether or polyvinyl pyridines have glass transition temperature less than or equal to 20 degrees Celsius? Note that these homopolymers are formed from monomers belong to vinyl pyridines, vinyl ethers or vinylamide. These are just a few.

Claims 33-35 lacks antecedent basis. The dependent claims have glass transition temperature greater than 20 degrees. Additionally the claims should be "wherein the gradient copolymer has glass transition temperature. Applicant's attention is drawn to paragraph 63.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-40, 63-65, and 79-86 are rejected under 35 U.S.C. 102(b) as being anticipated by U. S. Patent 5,527,840 ('840).

Claims are drawn to hair cosmetic compositions comprising film-forming gradient copolymer and cosmetically acceptable medium. The preamble does not carry any patentable weight since the claimed copolymer is disclosed in the example.

See the abstract for solvent, which can be water or organic solvent and this reads on the claimed "cosmetically acceptable medium". See examples 1 and 2-7. See table 1 for carboxy addition polymers. The patent discloses the claimed species. See also the average molecular weight and glass transition temperature. See col.4, ll 32-33 for the weight percent of the carboxy polymer and the claimed weight percent of the gradient copolymer is within the weight percent of the polymer disclosed in the patent. See col.4, ll 58-64 for the molecular weight of the polymer. See col.6, ll 42-50 for the additives, which read on claim 86. Water reads on the claimed medium (claims 84-85). See table 1, examples A-G for claims 28-31. Acrylic acid is the hydrophilic monomeric residue. Since the elected species is disclosed in the patent, claims 14-19 are anticipated by the patent.

Patent office is not equipped to measure the poly dispersity index or strain break or elastic recovery or young's modulus. See pages 5-6 for measuring poly dispersity. See pages 31-33 of the specification for measuring the functional language recited in claim 1. Therefore patent anticipates the claims with respect to the functional language recited in claim 1 and patent anticipates claims 2-13 and 20-23 absence of evidence to the contrary.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are

such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 90-91 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of 6,113,881 ('881) and U. S. Patents '840.

Patent '881 teaches styling compositions in the form of sprays and gels. See col.2, ll 30-48. Patent teaches that film forming polymers are used to provide a film on the hair and these compositions are in the form of spray. Patent at col.2, ll 49-54 teaches styling compositions in the form of gels. Patent at col.3, ll 30-31 teaches that resins or polymers are used in styling compositions and they are well known. Patent at col.13, ll 55-68 teaches terpolymers (more than two monomers) in styling compositions. Patent '881 does not teach the specific film former claimed (elected species drawn to a terpolymer). Patent teaches the claimed species as a film forming agent in coating. Patent clearly teaches the concept of coating a substrate.

Accordingly, it would be obvious to one of ordinary skill in the art at the time the invention was made to prepare compositions of '881 and use in the form of gel or sprays and substitute the film formers of patent '881 with film formers of patent '840 which teaches these polymers are used for coating. The function of both the polymers is same that is both the polymers of patent '881 and 840 are film formers. Therefore one of ordinary skill in the art would substitute the film former of '881 with a film former of '840 with the reasonable expectation of success that the film former of '840 can be used in styling and coating the hair so that a film is formed on the hair and it is well known to use polymers for hair styling taught by patent '881. This is a prima facie case of obviousness.

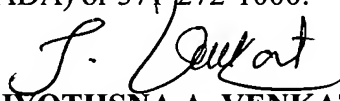
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to JYOTHSNA A. VENKAT Ph. D whose telephone number is 571-272-0607. The examiner can normally be reached on Monday-Friday, 10:30-7:30:1st Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, MICHAEL WOODWARD can be reached on 571-272-8373. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
/JYOTHSNA A. VENKAT/ Ph. D  
Primary Examiner  
Art Unit 1615

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